

DETAILED ACTION

Status of Claims

1. Claims 1, 2, 15, 29 and 35 are currently under examination wherein claims 1 and 15 have been amended in applicant's amendment filed on September 30, 2009. The previously withdrawn claims 3, 9, 11 and 16 have been amended in the same amendment.

Status of Previous Rejections

2. The previous rejections of claims 1, 2, 15, 29 and 35 under 35 U.S.C. 103(a) as stated in the Office action dated June 30, 2009 are maintained as follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 15, 29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-334618 A as stated in the Office action dated June 30, 2009.

With respect to the amended feature of the evaporation temperature of 100 °C or lower in the instant claims 1 and 15, it is a process limitation in product-by-process claims. Even through product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. JP ('618 A) discloses a fine metal particle, which reasonably appears to be only slightly different

than the respective claimed product in the product-by-process claims. Therefore, a rejection based on section 103 of the statute is eminently fair and acceptable. See MPEP 2113.

With respect to the amended feature of the boiling point of the polar solvents of 80 °C or lower in the instant claims 1 and 15, JP ('618 A) discloses that the boiling point of the low polar solvent should be greater than the room temperature and lower than the sintering temperature (paragraph [0035]), which overlaps the claimed temperature range. A prima facie case of obviousness exists. See MPEP 2144.05 I.

Response to Arguments

4. The applicant's arguments filed on September 30, 2009 have been fully considered but they are not persuasive.

First, the applicant argues that at the step of heat treatment of the process disclosed by JP ('618 A), all of the fine metal particles, from whose surface the coating of the compound having a group containing a nitrogen atom, an oxygen atom or a sulfur atom is totally removed. In response, the examiner notes that the end product produced by the method disclosed by JP ('618 A) is a conductive metal film substitutive for various plating films for various uses in an electronic component material field (abstract), which is different from the instantly claimed fine metal particles in the form of a dry powder. Therefore, the non-conductive coating of the compound having a group containing a nitrogen atom, an oxygen atom or a sulfur atom on the fine metal particles of JP ('618 A) needs to be removed. However, JP ('618 A) discloses that the surfaces of the fine metal particles in the dispersion are covered with the coating of the compound

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having a group containing a nitrogen atom, an oxygen atom or a sulfur atom (claim 5); and the solvent in the dispersion is evaporated by a heat treatment at a temperature lower than 250 °C (abstract). It would have been obvious to one of ordinary skill in the art to evaporate the solvent in the dispersion by a heat treatment at a temperature lower than 250 °C without adding the compound to detach the coating to obtain dry fine metal particles covered with the coating of the compound having a group containing a nitrogen atom, an oxygen atom or a sulfur atom as instantly claimed when such coated particles are desired.

Second, the applicant argues that JP ('618 A) fails to provide any disclosure as to such the fine metal particles whose surface is coated with one or more compounds having a group containing a nitrogen atom, an oxygen atom or a sulfur atom which group is used as a group capable of forming a coordinative bond with a metal elements contained in the fine metal particles. In response, see examiner's response to applicant's first argument above. JP ('618 A) discloses that the group is capable of forming a coordinative bond with a metal elements contained in the fine metal particles (claim 5).

Third, the applicant argues that JP ('618 A) fails to teach the feature related to the heat treatment temperature and moreover teach away from such feature. In response, see the reason for the rejection of the amended feature related to the heat treatment temperature in the instant claims 1 and 15 in the Section 3 above.

Fourth, the applicant argues that JP ('618 A) fails to teach the instantly claimed contents of the compound. In response, the examiner notes that the reason for the

rejection of the instantly claimed content ranges of the compounds or carboxylic acids as stated in the Office action dated June 30, 2009 is proper and therefore maintained.

Fifth, the applicant argues that JP ('618 A) fails to teach the instantly claimed coating thickness. In response, the examiner notes that the reason for the rejection of the instantly claimed coating thickness as stated in the Office action dated June 30, 2009 is proper and therefore maintained.

Sixth, the applicant argues that JP ('618 A) fails to teach the instantly claimed polar solvent having a boiling point of 80 °C or lower. In response, see the reason for the rejection of the amended feature related to the boiling point of the polar solvent in the instant claims 1 and 15 in the Section 3 above.

Seventh, the applicant argues that JP ('618 A) fails to teach specific carboxylic acids. In response, the examiner notes that JP ('618 A) does disclose the carboxylic acids comprise the straight chain or the branched saturated carboxylic acids having 1-10 carbon atoms as claimed in the instant claims 15 and 35 (paragraph [0031]).

Eighth, the applicant argues that JP ('618 A) fails to teach the instantly claimed fine metal particles in the form of dry powder. In response, see examiner's responses to applicant's first argument above and to the similar applicant's third argument in the Office action dated June 30, 2009.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

WZ

11/30/2009